

NIOSH SUMMARY ANNUAL CENTER REPORT

JOHNS HOPKINS EDUCATION AND RESEARCH CENTER FOR OCCUPATIONAL SAFETY AND HEALTH



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Submitted by:

**Jackie Agnew
Center Director
Johns Hopkins ERC
Baltimore, MD 21205**

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Overview: The Johns Hopkins Education and Research Center for Occupational Safety and Health is an interdisciplinary training program established in 1977 in response to the need for a professional workforce dedicated to worker safety and health. Master's and doctoral training is provided in Occupational and Environmental Hygiene, Occupational and Environmental Health Nursing, Occupational Injury Epidemiology and Prevention, and Biomarkers of Occupational Exposure and Susceptibility, as well as residency training in Occupational and Environmental Medicine. Continuing Education and Outreach components (including Hazardous Substance Training) offer the strengths of the core programs to practicing occupational safety and health professionals and workers. Additionally, as the only ERC in Region III, the center is dedicated to meeting regional and national needs through occupational safety and health practitioner and researcher training. The success of the center in meeting its objectives is presented, by program, in this report.

Occupational and Environmental Hygiene (OEH) (Patrick N. Breyse, PhD, CIH): Eight masters and eight doctoral students were enrolled in our program during this period. Two doctoral students and five master's students graduated in May 2011. This program continues to be a leader in research and practice education. We have started an online option for the master's program: 11 students are currently enrolled. Faculty continue to attract extensive interdisciplinary research support and maintain a productive publication record that frequently includes student co-authors. The program suffered a tragic loss with the untimely passing of core faculty member Dr. Alison Geyh. Other faculty changes include the addition of Dr. D'Ann Williams as a research associate. During 2010-2011, OEH faculty had more than 20 peer-reviewed publications, eight of which included ERC students as co-authors. During this period, Dr. Breyse served as a member of a NAS committee on Blue Water Vietnam Veterans and Agent Orange Exposure and as a member of the Accreditation Board for Engineering and Technology's Academic Advisory Council. The late Dr. Geyh served on the Maryland Department of the Environment, Air Quality Control Advisory Council. Dr. Williams currently serves on the USDA Agricultural Air Quality Task Force. Dr. Peter Lees served as a member of NAS Committee for the Review of Health Effects in Vietnam Veterans of Exposure to Herbicides (8th Biennial Update) and as a member of the NIEHS National Toxicology Program, Report on Carcinogens Expert Panel on Certain Glass Wool Fibers.

Occupational and Environmental Health Nursing (OEHN) (Sheila Fitzgerald, MSN, ANP, PhD): During this period, four master's and three doctoral students were enrolled in the OEHN program. Two master's students graduated, and both have positions in occupational health (one is organizing a return-to-work program in Fairbanks, AK, and the other serves in the office of the undersecretary of HHS, assisting with emergency readiness programs for government employees). Our online course *Occupational Health of Vulnerable Workers* was taught for the fourth time and enrollment continues to increase since its initiation. This course fulfills a need for our students and also engages a multidisciplinary group in the study of vulnerable workers. We have recently expanded our efforts to recruit new students with ads distributed to community health nurses, nurse practitioners and to Hispanic and black nurses associations. We continue to engage our advisory board in assisting us with program planning and recruitment strategies. Board members serve as preceptors for OEHN students and as sources of employment opportunities. Drs. Agnew, Cadorette and Fitzgerald, and Ms Doyle continue their engagement in preparedness education in Region III. Dr. Cadorette and Ms. Doyle were recently appointed as joint faculty in the Johns Hopkins School of Nursing. Dr. Cadorette remains a member of the Institutional Review Board at the Department of Energy (DOE), thus utilizing her expertise as a principal investigator of a project that conducts medical surveillance for former DOE workers. Dr. Fitzgerald's work with the university's Diversity Leadership Council and its Disability Subcommittee continues. Drs. Agnew and Fitzgerald serve as advisors to student-led projects to educate and train migrant Hispanic day laborers on safety and health at Bienestar's Casa de Maryland and at the TB Screening Program (where ERC students are among the volunteers). Dr. Agnew spoke at the Maryland Workplace Health and Wellness Symposium on the Wellness Impact on Employee Health.

Occupational and Environmental Medicine Residency (OEMR) (Virginia Weaver, MD, MPH): Our OEMR program had four residents during this period. Two students graduated in June 2011 (one took a position with the World Trade Center project, the other with the broad-based OEM clinic for resident training), two are continuing (one has transitioned to part-time), and we have one new resident. During

this period, one resident was a recipient of the Occupational Physician Scholarship Fund. Two resident research projects were presented at the 2011 AOHC, and one resident project will be presented at APHA. Two residents have manuscripts in preparation, submitted or published. During this period, we increased our outreach efforts. Dr. Weaver gave OEM grand rounds at two Washington, D.C., IM residency programs and at two Baltimore-based IM programs. Johns Hopkins and Uniformed Services University of the Health Sciences residents, along with Dr. Weaver, did a booth presentation for ACOEM at a recent American Medical Student Association conference in Baltimore. Dr. Weaver is a member of the ACOEM Task Force on Expanding Awareness of OEM as a medical specialty, which carries on the work of the ACOEM Outreach Workgroup of the ACOEM Task Force on OEM Education that she co-chaired. She is working with two JHU OEMR graduates on analyses of data from outreach surveys sent to OEMR directors and ACOEM student/resident members. OEM faculty at the University of Maryland continue to provide grand rounds and electives for medical students and internal medicine residents. We are modifying our program to increase the clinical content in the first year, in compliance with new ACGME requirements. The MPH degree will be lengthened to accommodate rotation time in both years of the program.

Occupational Injury Epidemiology and Prevention (OIEP) (Keshia Pollack, MPH, PhD): Of the four program trainees during this period, one successfully defended her dissertation. Her research on the impact of green buildings on worker health and safety will be a strong contribution to the literature. She is now employed at a private company, where she is exploring the impact of building design on the health and safety of their employees. One trainee (a federal employee) successfully passed her oral exams and is working on her dissertation, which will expand the knowledge on needlestick injury prevention. Another trainee who is interested in work-related distracted driving received funding through the PPRT and he had an abstract accepted at the 2011 APHA meeting. The final trainee is completing her coursework and is involved with ongoing research with several OIEP faculty. OIEP faculty continued to demonstrate a high level of research productivity, as evidenced by peer-reviewed publications, book chapters, conference presentations, and awarded grants and contracts. Their research includes: evaluating workplace policies to prevent injuries; work-related disability and return to work post-injury; self-management interventions for injury; injury prevention among first responders, manufacturing workers, transportation workers and paid professional athletes; and motor vehicle crashes in the military. Students took part in many of these research projects and are coauthors on the resulting publications. We have strengthened our existing partnerships with the National Transportation Safety Board, U.S. Army/Department of Defense, Major League Baseball and with the Baltimore Orioles and the Maryland State Fireman's Association.

Biomarkers of Occupational Exposure and Susceptibility (BOES) (Paul T. Strickland, PhD): The BOES program is currently training six doctoral candidates. Recent graduates have successfully transitioned to employment at government agencies, academic research departments and private research and consulting firms. NIOSH support continues to leverage independent support for student training and is supplemented by tuition support from DEHS and school diversity fellowships. BOES faculty demonstrated a high level of research productivity during this period and continued to support doctoral-level training in other ERC programs and collaborating departments. Faculty make major contributions to the field, as evidenced by published papers, review articles and book chapters (many of which include students as authors), as well as numerous presentations at national and international conferences and participation on national and international professional committees. Dr. Strickland continued to serve as a member of the Review Panel on PAH Mixtures of the EPA Science Advisory Board and on the Standing Scientific Review Panel of the Lymphoma Foundation of America. He also presented the keynote lecture at the 20th Asian Conference on Occupational Health in Bangkok, Thailand. Dr. Ana Navas-Acien continued to serve as a member of the WHO Expert Panel on Global Burden of Disease Caused by Lead, and chaired a session at the Second International Congress on Arsenic in the Environment (From Nature to Humans) in Taiwan. Dr. Brian Schwartz serves as co-director of the Joint Geisinger-Johns Hopkins Environmental Health Institute and received the Excellence in Teaching Award from the Bloomberg School of Public Health.

Pilot Project Research Training (PPRT) (Peter S.J. Lees, PhD, CIH): We continue to offer the annual Pilot Projects Research Training Request for Proposals to all NIOSH-supported institutions and other institutions engaged in occupational safety and health research in Region III. This year, two rounds of requests for proposals were distributed to 39 program directors at 21 different institutions. In response, 11 applications were received—seven from doctoral or post-doctoral students and one from junior faculty at the Johns Hopkins Bloomberg School of Public Health, and one each from the three following universities: the University of Delaware Department of Plant and Soil Sciences (doctoral student); the George Washington University School of Public Health (junior faculty); and the Virginia Polytechnic and State University School of Engineering (post-doctoral fellow). Five proposals were funded: *Distribution and Speciation of Metals and Metalloids in Particulate Matter Emitted from Delmarva Poultry Operations*; *Needs Assessment for the Development of an Occupational Health Education Program for Latinos in Baltimore*; *Validation of a Sampling Method for the Preservation of Chromium (+6) in Airborne Samples*; *Analysis of Felonious Homicide of Law Enforcement Officers*; and *Perceptions of Occupational Safety in Operating Rooms and Surgeons' Compliance with Sharps Safety Behaviors*.

Continuing Education and Outreach (CE) (Mary Doyle, RN, MPH, COHN-S/CM): The CE program continues to participate in the Healthy Homes training network as a university partner (increasing our trainings to 14 per year) by providing multiple courses for the Delaware Department of Health. We work closely with local professional associations (including AAOHN, ASSE, AIHA, ACOEM and AHMP) to plan continuing education courses and support monthly meetings. Ms. Doyle is on the executive planning committee for the nursing regional occupational health conference, the AIHA/ASSE annual conference, the AHMP annual conference and the Washington Metropolitan Area Construction Safety Association conference, and she serves as an officer and on the executive board for the Metropolitan Washington chapter of AAOHN. She was invited to serve on the board of directors for the Public Employees Safety Association (PESA) and helps plan their conferences several times per year. The ERC collaborated with Organization Resources Counselors Worldwide to organize the Corporate Health Directors Network meetings, which were held twice during the grant year. Our CE program had 958 trainees during this period.

Hazardous Substances Training (HST) (Mary Doyle, RN, MPH, COHN-S/CM): The HST program continues to collaborate with local public health departments, state environmental health officials and local professional associations to meet the continuing education needs of regional environmental health professionals. During this period, Ms. Doyle was on the executive planning committee with local ASSE and AHMP officers to develop the annual Professional Development Conference with speakers from academia and private, state and federal organizations. Ms. Doyle was also on the executive planning committee with local ASSE and AHMP section officers to plan the *Essentials of Hazardous Materials Management (EHMM) Overview Course*. A popular new course, *Investigating Public Health Complaints*, was developed in collaboration with local county environmental health directors and was offered during this grant period. The HST program offered seven sessions on various topics related to emergency preparedness for local professional associations and government agencies. More than 285 trainees enrolled in our HST offerings during this period.

Summary: During this reporting period, we have enhanced the nation's professional OHS workforce in several ways, with both immediate and long term benefits that are consistent with the original purpose of ERCs. NIOSH support has launched careers in research and practice in the field and allowed us to provide, and mentor students who will provide, leadership and expertise in the field. Perhaps most important are the enduring benefits to the field that have been generated by producing a significant proportion of graduates who assume positions in academia—thus influencing the recruitment and preparation of OHS professionals over future times. The extent of our outreach and continuing education programs substantially increases the occupational safety and health resources available to our region and beyond. We will continue to respond to emerging issues that affect the health of workers and will contribute to their solutions. Our goals over the next funding period are to continue the leadership provided by faculty and the recruitment of students who will follow their lead. We will focus on the recruitment of minority students and pursue all avenues to increase student support.